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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ROBINSON BOYCE, AKIBA K	
ART UNIT	**PAPER NUMBER**
3623	

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/464,311	CHEN ET AL.	
	Examiner	Art Unit	
	Akiba K Robinson-Boyce	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4,6,7,9-11,16-22 and 25-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3, 4, 6, 7, 9-11, 16-22 and 25-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

1. In response to the communication received on 6/7/04, the following is a final office action. Claims 1 and 25 are amended. Claims 2, 5, 8, 12-15 and 23-24 are cancelled. Claims 28-32 have been added. Claims 1, 3, 4, 6, 7, 9-11, 16-22 and 25-32 are pending in this application and have been examined on the merits. The previous rejection has been withdrawn and the following reflects the claims as amended.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 4, 6, 7, 9-11, 16-22, 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murad et al (US 6,526,389), and further in view of McDonough et al (US 6,115,693).

As per claims 1,28, Murad et al discloses:

Processing circuitry operative to process customer telephone call records, (Col. 3, lines 25-32, represented by the programmable controller);

Including telephone call data, (Col. 3, lines 42-59, telephone values]);

A data warehouse coupled with the processing circuitry and configured to store the processed customer telephone call records, (Col. 4, lines 18-19, represented by the memory);

At least one computer program, performed by the profiling engine, and operative to define behavior profiles defined at least in part by probability distributions, using data from the telephone call records, as data cubes and derive similarity measures on patterns extracted from the behavior profiles, (Col. 8, lines 61-65, Col. 10, lines 24-36, represented by the method being computer implemented, and where the behavior profiles are represented by prototypical first behavior profiles and similarity measures are represented by matches and differences, Col. 5, lines 10-14, where the profile **304** is shown to represent a multi-dimensional probability distribution of calls);

Wherein the behavior profiles are provided as two input calling pattern cubes, C1 and C2, and a similarity cube, Cs, is an output of a comparison between C1 and C2, wherein the similarity cube Cs, represents a pair of corresponding sub-cubes of C1 and C2, (Col. 8, lines 15-20, where the two input calling pattern cubes are represented by two instances of the second level profile where the second level profile represents extracted call prototypes).

And wherein C1 and C2 are count-cubes, a sub-cube is treated as a bag, and cell-wise comparison results are summarized based on bag overlap, wherein each cell of Cs represents the similarity of a pair of corresponding sub-cubs, a cube having a set of dimensions and each cell of the cube being identified by a value from each of the

dimensions, (col. 7, lines 3-57, [where it shows that a comparison between qualitative profiles of a daily prototype and of the daily profile under examination as determined on the basis of the CD distance function. In this case, the Diff value represents each cell of Cs since it shows how similar/different the qualitative profiles of a daily prototype, which are derived from instances of a second level profile. This comparison, showing the distance factor represents the bag overlap. The overlap is shown by this distance factor since it is shown that the difference stays at or below the predetermined threshold]).

The count cubes having non-negative integer cell values, and the bag overlap enables comparison of corresponding sub-cubes of distinct count cubes, (Col. 7, lines 41-48, [shows that the distance between the qualitative profile and the nearest non-zero daily prototype does not exceed a predetermined threshold value, in this case, the non-negative integer cell value is represented by the non-zero daily prototype and the comparison is represented by the distance. As described above, the comparison, showing the distance factor represents the bag overlap as long as the difference stays at or below the predetermined threshold, as shown by the equation Diff<=T]).

Murad et al fails to disclose the following, however McDonough et al discloses:

An On Line Analytical Processing (OLAP) based scalable profiling engine communicating with the data warehouse and operative to build and up data customer behavior profiles by mining the customer telephone call records that flow into the data warehouse, (Col. 11, lines 29-34 and Col. 12, lines 50-53, where the statistics represent the customer profiles).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to incorporate OLAP into the Murad et al patent with the motivation of accurately analyzing trends in a telecommunications environment.

As per claim 3, Murad et al fails to disclose the following, however McDonough et al discloses:

Wherein the profiling engine comprises a commercial data warehouse server, (Col. 7, lines 47-51, represented by the statistics server);

The following is obvious with McDonough since McDonough teaches that an OLAP tool is used to analyze trends and statistics for operational management of the environment (See Col. 11, lines 29-33). In this type of situation, an OLAP server is necessary to provide the services of accessing the proper trend files and routing these trend files to other computers in the network for analysis. Without the OLAP server, the OLAP tool would have no way of keeping the trend files in order for proper analysis:

and a multi-dimensional OLAP server;

As per claim 4, Murad et al discloses:

Wherein the profiling engine implements multi-level, multi-dimensional pattern analysis and comparison, (Col. 9, lines 6-15 w/lines 39-44, where each dimension of the multi-dimensional probability distribution has a corresponding cumulative distribution and where the analysis and comparison is represented by weighted summing of the squared differences between the cumulative distribution of the first behavior profile and each remaining first behavior profile at each attribute)

As per claim 6, Murad et al discloses:

Wherein similarity measures are defined and computed on the patterns extracted from the behavior profiles, (Col. 9, lines 39-44, represented by the cumulative distribution of behavior profiles).

As per claim 7, Murad et al discloses:

Wherein the computer program is further operative to compare the data cubes with similarity measures identifying fraud so as to extract fraud detection from the behavior profiles, (Col. 8, lines 10-15, represented by comparing the threshold value to determine if the daily profile is fraudulent or unusual).

As per claim 9, Murad et al discloses:

Wherein the behavior profiles are analyzed against a...threshold to detect caller fraud, (Col. 10, lines 30-39, represented by the comparison of the behavior profiles to identify a deviation from the normal behavior where the deviation is designated as fraudulent).

Murad et al fails to disclose that the behavior profiles are personalized, however, McDonough et al discloses this feature in Col. 6, lines 63-66 where it is disclosed that a script enables a customer profile to be identified and the content of the script is personalized for the customer.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for the behavior profiles to be analyzed against a personalized threshold with the motivation of treating and analyzing each customer individually according to their own individual behavior.

As per claim 10, Murad et al discloses:

Wherein the customer records comprise customer call records, the profiling engine builds and updates customer calling behavior profiles by mining the customer call records, and at the computer program derives similarity measures on patterns extracted form the call behavior profiles, (Col. 3, lines 25-32, where the customer records are represented by the customer call records, Col. 6, lines 55-61, where the building and updating of customer calling records is represented by the update of the clusters of daily profiles, Col. 10, lines 24-36, where the derivation of similarity measures is represented by the comparison to identify a deviation from normal behavior profiles).

As per claim 11 Murad et al discloses:

A data warehouse for storing customer records including telephone call data, (Col. 4, lines 18-19, represented by the memory);

A profiling engine configured to communicate with the data warehouse and operative to generate customer telephone calling behavior profiles from the customer record within the data warehouse, the profiling engine being configured to define customer telephone calling behavior profiles using probability distributions, (Col. 11, lines 26-35, represented by the means for obtaining a plurality of first behavior profiles), on multi-dimensional and multi-level data cubes, one multi-level data cube being a profile cube (Col. 6, lines 55-59 represented by the daily profile), another multi-level data cube being a profile-snapshot cube, (Col. 6, line 62-Col. 7, line 2, represented by the daily prototype referred to as the second level profile processing), and yet another

data cube being a profile cube formed by merging together the profile cube and the profile-snapshot cube, (Col. 7, lines 3-17, represented by the third level overall profile);

a computer application program implemented on the profiling engine and operative to represent behavior profiles as patterns, using the telephone call data, and derive similarity measures of the patterns usable to profile customer behavior and detect fraud, by deriving calling pattern cubes from the profile cubes, (Col. 8, lines 61-66 w/ Col. 10, lines 30-39, where the computer application program is represented by the computer implemented method and the similarity measures are represented by the deviation form the normal behavior profile, Col. 3, lines 46-54, where call similarities or dissimilarities are obtained from the first level profile, Col. 4, lines 40-45, [where the depicted squares represent count-cubes, esp. the Nth call prototype, which represents a profile])

using a probability distribution-based calling pattern, treating a sub-cube as a bag, and summarizing cell-wise comparison results based on bag overlap, (Col. 7, lines 58-65, w. Col. 8, lines 10-20, where the distance factor based on the Cumulative Distribution is determined in Col. 5, lines 52-Col. 6, line 5. In this case, the distance factor based on the Cumulative Distribution represents bag overlap using probability distribution-based calling pattern since when calculating the distance factor, if the value is negative, then the daily profiles {represented by cells} would overlap]).

Murad et al fails to disclose the following, however McDonough et al discloses:

and to compute the customer telephone-calling behavior profiles using OLAP operations, (Col. 11, lines 29-34 and Col. 12, lines 50-53, where the statistics represent the customer calling behavior profiles).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to incorporate OLAP into the Murad et al patent with the motivation of accurately analyzing trends in a telecommunications environment.

As per claim 16, Murad et al discloses:

Wherein the updated profile cube is stored within a profile table of the data warehouse such that subsequent customer profiling utilizes customer records from the data warehouse comprising the updated profile cube, (Fig. 2B, Col. 4, lines 41-45 w/ Col. 6, line 55-Col. 7, line 16, where the updated profile cube is represented by the call prototype).

As per claim 17, Murad et al discloses:

Providing call data in the form of call data records to a data warehouse, (Col. 4, lines 18-19, represented by the memory);

Generating a profile-snapshot cube accommodating multiple customers;(Col. 10, lines 24-25, represented by the first behavior profile for each cluster)

In combination with generating the profile-snapshot cube, generating a profile cube for the same set of customers from the data warehouse, (Col. 10, lines 26-37, where the data warehouse is shown by the arrangement of the records);

Updating the profile cube by merging the profile cube with the profile-snapshot cube, (Col. 7, lines 3-17, represented by the third level overall profile);

Storing the updated profile cube in the data warehouse, (Col.8-19, represented by the entry in the overall profile vector);

Murad et al fails to disclose the following, however, the following is obvious with McDonough since McDonough teaches that an OLAP tool is used to analyze trends and statistics for operational management of the environment (See Col. 11, lines 29-33):

Loading the call data records into a multidimensional database of an OLAP server.

In this type of situation, an OLAP server is necessary to provide the services of accessing the proper trend files and routing these trend files to other computers in the network for analysis. Without the OLAP server, the OLAP tool would have no way of keeping the trend files in order to have proper analysis.

Murad et al also fails to disclose the following:

Maintaining profiles by staging data between the data warehouse and the OLAP multidimensional database, (Col. 11, lines 18-33, where the data warehouse is represented by the statistics being gathered by event resources and the
It would have been obvious to one of ordinary skill in the art to maintain the profiles by staging data between the data warehouse and the OLAP multidimensional database with the motivation of taking this already stored data and making it accessible for reporting.

As per claim 18, Murad et al discloses:

Wherein the data warehouse comprises profile tables configured to store the profile cube, (Col. 4, lines 41-45, and Fig. 2B, where the profile cube ins represented by each depicted square)

As per claim 19, Murad et al discloses:

Wherein the updated profile cube is subdivided into a plurality of individual calling pattern cubes, each representative of individual customers, and further comprising comparing calling patterns that have been derived from customer calling behavior profiles, Col. 4, lines 41-45, where each depicted square represents a call prototype/profile where each call is made by a customer, Col. 3, lines 46-54, where the calling patterns are represented by the call that has a prototype similar or dissimilar and the calling behavior profiles are represented by the first level profile).

As per claim 20, Murad et al discloses:

Further comprising the steps of...analyzing...of one of the calling pattern cubes for an individual customer, (Col. 10, lines 30-38, esp. lines 33-39, where determining the difference represents the analyzing step).

Murad et al fails to disclose the following, however McDonough et al discloses:

Reporting and visualizing, (Col. 4, lines 31-34, and lines 38-40, represented by reporting of performance data and displaying performance data).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to report and visualize the calling pattern cubes with the motivation of producing a physical document that users can have as evidence when analyzing the calling patterns.

As per claim 21, Murad et al discloses:

Further comprising retrieving profile tables to generate the profile cubes, (Col. 4, lines 36-48 and Fig. 2B [call duration vs. time of day], where profile cubes are represented by call prototype squares), retrieving call data tables to create profile-snapshot cubes that have a same dimension of a profile cube to facilitate merging by addition, (Col. 10, lines 24-25, represented by the first behavior profile for each cluster), deriving individual customer-based calling pattern cubes from the profile cubes, (Col. 8, lines 15-20, where the two input calling pattern cubes are represented by two instances of the second level profile where the second level profile represents extracted call prototypes), analyzing individual calling patterns in multiple dimensions and multiple levels, and computing a similarity of calling patterns that belong to different customer or to a same customer over different profiling periods, (Col. 10, lines 30-37, represented by comparing to identify the deviation).

As per claim 22, Murad et al discloses:

Wherein a cell of C5 is mapped into a pair of corresponding sub-cubes of C1 and C2, (Col. 8, lines 15-20, where the two input calling pattern cubes are represented by two instances of the second level profile where the second level profile represents extracted call prototypes).

As per claim 25, Murad et al discloses:

A data warehouse for storing customer records including telephone call data, (Col. 4, lines 18-19, represented by the memory);

A profiling engine configured to communicate with the data warehouse and operative to generate customer telephone calling behavior profiles from the customer record within the data warehouse, the profiling engine being configured to define customer telephone calling behavior profiles using probability distributions, (Col. 11, lines 26-35, represented by the means for obtaining a plurality of first behavior profiles), on multi-dimensional and multi-level data cubes, one multi-level data cube being a profile cube (Col. 6, lines 55-59 represented by the daily profile), another multi-level data cube being a profile-snapshot cube, (Col. 6, line 62-Col. 7, line 2, represented by the daily prototype referred to as the second level profile processing), and yet another data cube being a profile cube formed by merging together the profile cube and the profile-snapshot cube, (Col. 7, lines 3-17, represented by the third level overall profile);

a computer application program implemented on the profiling engine and operative to represent behavior profiles as patterns, using the telephone call data, and derive similarity measures of the patterns usable to profile customer behavior and detect fraud, by deriving volume based calling pattern cubes comprising count-cubes from the profile cubes, (Col. 8, lines 61-66 w/ Col. 10, lines 30-39, where the computer application program is represented by the computer implemented method and the similarity measures are represented by the deviation form the normal behavior profile, Col. 3, lines 46-54, where call similarities or dissimilarities are obtained from the first level profile, Col. 4, lines 40-45, [where the depicted squares represent count-cubes, esp. the Nth call prototype, which represents a profile], Col. 4, lines 50-59, esp. lines 57-

59 and Col. 5, lines 23-25, [where the quantitative profile which indicates the usage volume number of calls made by the customer is disclosed])

using a probability distribution–based calling pattern, treating a sub-cube as a bag, and summarizing cell-wise comparison results based on bag overlap using cell-to-subcube mapping, (Col. 7, lines 58-65, w. Col. 8, lines 10-20, where the distance factor based on the Cumulative Distribution is determined in Col. 5, lines 52-Col. 6, line 5. In this case, the distance factor based on the Cumulative Distribution represents bag overlap using probability distribution-based calling pattern since when calculating the distance factor, if the value is negative, then the daily profiles {represented by cells} would overlap]).

Murad et al fails to disclose the following, however McDonough et al discloses:

and to compute the customer telephone-calling behavior profiles using OLAP operations, (Col. 11, lines 29-34 and Col. 12, lines 50-53, where the statistics represent the customer calling behavior profiles).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to incorporate OLAP into the Murad et al patent with the motivation of accurately analyzing trends in a telecommunications environment.

As per claim 26, Murad discloses:

Wherein the computer application program is operative to implement projection cell-to-subcube mapping, (Col. 7, lines 58-65, w. Col. 8, lines 10-20, [comparing quantitative profile to third level profile where the quantitative profile represents the cell and the third level profile represents the subcube]).

As per claim 27, Murad discloses:

Wherein the computer application program is operative to implement change level cell-to-subcube mapping, (col. 7, lines 25-30, [updating a capturing changes]).

As per claim 29, Murad discloses

Wherein an element of the bag is identified by a list of dimension values underlying a cell of the cube, and a count of the element is represented by a cell value, (Col. 3, lines 55-60, [shows that the CDR fields are defined by numerical values]).

As per claim 30, Murad discloses:

Wherein the count cubes having non-negative integer cell values, and the bag overlap enables comparison of corresponding sub-cubes of distinct count cubes, (Col. 7, lines 41-48, [shows that the distance between the qualitative profile and the nearest non-zero daily prototype does not exceed a predetermined threshold value, in this case, the non-negative integer cell value is represented by the non-zero daily prototype and the comparison is represented by the distance. As described above, the comparison, showing the distance factor represents the bag overlap as long as the difference stays at or below the predetermined threshold, as shown by the equation Diff<=T]).

As per claims 31 and 32, Murad discloses:

Wherein each cell of Cs represents the similarity of a pair of corresponding sub-cubes, , (col. 7, lines 3-57, [where it shows that a comparison between qualitative profiles of a daily prototype and of the daily profile under examination as determined on the basis of the CD distance function. In this case, the Diff value represents each cell of Cs since it shows how similar/different the qualitative profiles of a daily prototype, which

are derived from instances of a second level profile. This comparison, showing the distance factor represents the bag overlap. The overlap is shown by this distance factor since it is shown that the difference stays at or below the predetermined threshold]).

Response to Arguments

4. Applicant's arguments filed 6/7/04 have been fully considered but they are not persuasive.

As per claim 1, the applicant argues that while Murad uses Cumulative Distribution-based (CD) distance function in determining a genuine dissimilarity between any two instances of a second level profile, that there is no relationship between Murad's "distance factor based on the cumulative Distribution determined during a clustering operation" and "sub-cube is treated as a bag, and cell-wise comparison results are summarized based on bag overlap" as recited in claim 1. The applicant goes on to conclude that Murad fails to teach a sub-cube being treated as a bag, and cell-wise comparison results being summarized based on bag overlap. However, in Col. 7, lines 41-48, Murad shows that the distance between the qualitative profile and the nearest non-zero daily prototype does not exceed a predetermined threshold value, in this case, the non-negative integer cell value is represented by the non-zero daily prototype and the comparison is represented by the distance. This comparison, showing the distance factor represents the bag overlap. The overlap is shown by this distance factor since it is shown that the difference stays at or below the predetermined threshold.

Furthermore, as per claim 1, the applicant further argues that Murad fails to disclose count-cubes which are defined by the specification as special kind of cubes whose cell-values are non-negative integers for measuring counts, and also the bag overlap enables comparison of corresponding sub-cubes of distinct count cubes. As described above, the count cubes are represented in Col. 7, lines 41-48. In this case, Murad shows that the distance between the qualitative profile and the nearest non-zero daily prototype does not exceed a predetermined threshold value. In this case, the non-negative integer cell value is represented by the non-zero daily prototype, and represents the count-cube value. In addition, the act of calculating the distance value represents the comparison of corresponding sub-cubes, where the sub-cubes are represented by the comparison of two instances of the second level profile in Col. 8, lines 15-20.

Claims 3-4, 6-7, 9-10, 22 and 32 depend from claim 1 and are rejected for the same reasons as given above for claim 1.

As per claim 11, the applicant argues that Murad fails to disclose "yet another data cube being a profile cube formed by merging together the profile cube and the profile-snapshot cube". However, in Col. 7, lines 3-17, the profile cube and the profile snapshot cube are represented by the quantitative profiles, and summing these profiles represents the merging limitation. The applicant also reiterates that with respect to claim 1, Murad fails to teach or suggest "treating a sub-cube as a bag, and summarizing cell-wise comparison results based on bag overlap". However, as

disclosed above in preceding paragraphs, Murad discloses this limitation in Col. 7, lines 41-48.

Claims 16 and 17 depend from claim 11, and are rejected at least for similar reasons set for with respect to claim 11.

Claims 18-21 depend form claim 17 and are also rejected.

As per claim 21, the applicant argues that Murad does not disclose "retrieving profile tables to generate the profile cubes, retrieving call data tables to create profile-snapshot cubes that have a same dimension of a profile cube to facilitate merging by addition". However, in Col. 10, lines 24-25, Murad discloses "determining a prototypical first behavior profile for each cluster". Murad then goes on to disclose "arranging the determined prototypical first behavior profiles into a plurality of records for representing a second behavior profile determined over said second predetermined time interval" in col. 10,lines 26-29. The fact that a second behavior profile is represented by the first represents the creation of a profile snap-shot cube that has the same dimension of a profile cube, where the record represents the table.

Claim 25 is rejected for similar reasons set forth above with reference to claims 1 and 11.

Claims 26-27 depend from claim 25 and are also rejected for the same reasons.

New claims 28-32 are rejected as stated above.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 703-305-1340. The examiner can normally be reached on Monday-Friday, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7238 [After final communications, labeled "Box AF"], 703-746-7239 [Official Communications], and 703-746-7150 [Informal/Draft Communications, labeled "PROPOSED" or "DRAFT"].

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

A. R. B.
September 13, 2004

TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600